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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,029	04/18/2006	Alfred Pecher	INA-30	8036
20311 7590 01/09/2008 LUCAS & MERCANTI, LLP 475 PARK AVENUE SOUTH 15TH FLOOR NEW YORK, NY 10016			EXAMINER DAVIS, OCTAVIA L	
			ART UNIT 2855	PAPER NUMBER
			MAIL DATE 01/09/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,029	PECHER ET AL.	
	Examiner	Art Unit	
	Octavia Davis	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/23/06</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 3, 5, 6, 9, 10, 15, 16, 19 – 21 and 23 – 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Takizawa et al (6,948,856).

Regarding claims 1, 9, 10 and 19, Takizawa et al disclose a rolling bearing device and ring with a sensor for the rolling bearing device comprising a sensor element 11, conductive members 15b and electronic components 14, 16 connected to a flexible carrier material 2, 3, 11 (See Col. 6, lines 6 – 8 and 36 – 41 and Col. 10, lines 1 – 4).

Regarding claims 2 and 3, the sensor element, the conductive members and the electronic components are located above and below the material 11 (See Fig. 1).

Regarding claim 5, the sensor 11 is a capacitor 73a, 75a with at least two plate-like conductor areas opposite one another and separated from one another by the material, the material being a dielectric (See Col. 10, lines 1 – 15).

Regarding claim 6, the conductor areas 15b are capable of being elastically deformed (See Col. 10, lines 1 – 8).

Regarding claims 15 and 16, the sensor element, the conductors and the electronic components are formed on the material(s) by deposition of insulating materials (See Col. 6, lines 27 – 29 and 36 – 41).

Regarding claim 20, the adhesive material is applied to a material 202, 203 and includes a protective film 283 (See Col. 20, lines 40 – 44).

Regarding claims 21 and 23, the surface of the sensor element and the conductors is covered with an insulating layer 12 (See Col. 6, lines 27 – 35).

Regarding claims 24 and 27, the electronic components, the insulating layers and the material include the insulating material 12 (See Col. 6, lines 27 – 35).

Regarding claims 25 and 26, the roller bearing includes a groove and has rolling bodies and an outer ring 1 with a recess 8a, 8b (See Col. 6, lines 4 – 7 and 14 - 19).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 7, 8, 11 – 14, 17, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al (856') in view of McDearmon (2002/0092360 A1).

Regarding claims 4 and 7, Takizawa et al disclose all of the limitations of these claims except that the sensor element is a strain gage and a resistance bridge with a conductor of copper.

However, McDearmon discloses a bearing assembly with sensors for monitoring loads comprising wire strain gage sensor element(s) 70 formed in a bridge configuration (See Pg. 4, Paragraph 0042, lines 1 – 11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takizawa et al according to the teachings of McDearmon for the purpose of, advantageously providing strain sensors to generate electrical signals of a type and mode which are usable by other automotive devices which function to provide dynamic control a vehicle under various loading conditions (See McDearmon, Pg. 2, Paragraph 0014, lines 1 - 6).

Regarding claims 8 and 11 - 14, Takizawa et al disclose all of the limitations of these claims except that the sensor element is connected by signaling technology via contacting elements to the conductors, the elements being formed in the flexible material and aligned perpendicularly. However, in McDearmon, metallic foil resistance elements 74, 76 including legs 78 are bonded to the carrier 72 (See Pg. 3, Paragraph, 0038, lines 1 – 4 and Page 4, lines 1 - 22) and the carrier material 72 is a polymeric material (See Pg. 4, Paragraph 0038, lines 1 – 13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takizawa et al according to the teachings of McDearmon for the purpose of, advantageously enabling the carrier to expand and contract with the housing (See McDearmon, Pg. 4, Paragraph 0038, lines 11 – 13).

Regarding claims 17 and 18, Takizawa et al disclose all of the limitations of these claims except that one of the electronic components is an amplifier. However, it would have been obvious to incorporate an amplifier since these are well known types of electronic components (See KSR, 82USPQ2d, 1385 (2007)).

Regarding claim 22, Takizawa et al disclose all of the limitations of these claims except that the insulating layer is a solder resist. However, it would have been obvious to incorporate a solder resist since these are well known types of insulators (See KSR, 82USPQ2d, 1385 (2007)).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Message et al (5,873,658) disclose a rolling bearing with an information sensor.

Sonnerat et al (5,594,334) disclose a bearing having a sensor incorporated in a bearing seal and a circumferential sensor cable extending through and along the side of the bearing seal.

Caillault et al (5,195,830) disclose a leaktight sensor assembly which can be incorporated in a data sensor bearing and a bearing equipped with such an assembly.

Sendzimir et al (6,658,947) disclose a strip flatness measuring device.

Sakatani et al (7,034,711) disclose a wireless sensor, rolling bearing with sensor, management apparatus and monitoring system.

Brunnett et al (7,010,081) disclose a tapered rolling bearing.

Kellstrom (3,963,285) disclose a cage control of skew angle in roller bearings.

French et al (6,535,135) disclose a bearing with a wireless self-powered sensor unit.

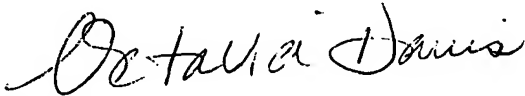
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Octavia Davis whose telephone number is 571-272-2176. The examiner can normally be reached on Mon through Thurs from 9 to 5. The examiner can also be reached on alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



OD/2855

1/2/08



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